



TOGETHER
for a sustainable future

OCCASION

This publication has been made available to the public on the occasion of the 50th anniversary of the United Nations Industrial Development Organisation.



TOGETHER
for a sustainable future

DISCLAIMER

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

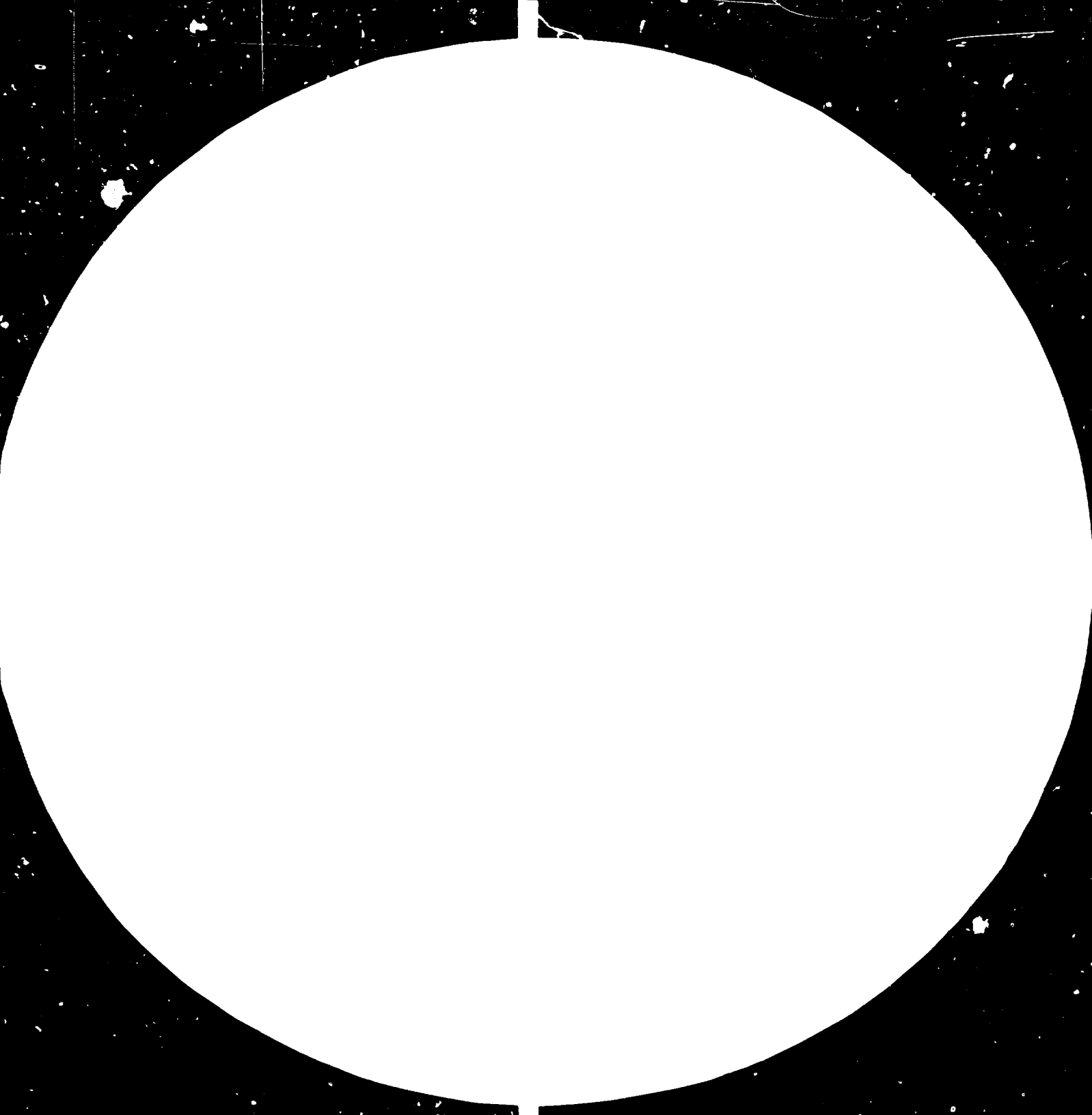
FAIR USE POLICY

Any part of this publication may be quoted and referenced for educational and research purposes without additional permission from UNIDO. However, those who make use of quoting and referencing this publication are requested to follow the Fair Use Policy of giving due credit to UNIDO.

CONTACT

Please contact publications@unido.org for further information concerning UNIDO publications.

For more information about UNIDO, please visit us at www.unido.org





2.8 2.5

2.2



2.0



W. S. K. OPTICAL CO., INC.

NEW YORK, N. Y.

1954

1000



11834



Distr.
LIMITED
ID/WG.379/18
6 October 1982

United Nations Industrial Development Organization

ENGLISH

Interregional Cement Technology Forum

Benghazi, Libyan Arab Jamahiriya
13 - 20 April 1982

CEMENT INDUSTRY TRAINING CENTERS*

by

Klaus Alexander Kayatz **

* The views expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO. This document has been reproduced without formal editing.

Mention of firm names and commercial products does not imply the endorsement of the United Nations Industrial Development Organization (UNIDO).


** Assistant Vice-President, HOLDERBANK MANAGEMENT AND CONSULTING, SWITZERLAND.

IN THE CEMENT INDUSTRY THERE IS A NEED FOR A
CONTINUOUS EFFORT TO IMPROVE
INDIVIDUAL HUMAN PRODUCTIVITY THROUGH

HUMAN RESOURCES DEVELOPMENT

TYPICAL TRAINING NEEDS IN CEMENT PLANTS

After having conducted a series of assessment studies on the efficiency of organisations and operations of existing cement factories "Holderbank" has found typical skill and know how deficiencies in most newly industrialized countries. The chart below shows the areas of the major training needs due to skill and know how deficiencies.

 "HOLDERBANK" - TRAINING PROGRAM AREAS OF TYPICAL TRAINING NEEDS OF CEMENT PLANTS IN NEWLY INDUSTRIALIZED COUNTRIES			
	1. BASIC, INTRODUCTORY TRAINING	2. ADVANCED TRAINING	3. SPECIALIZED, EXPERT TRAINING
A. <u>VOCATIONAL TRAINING</u> PRACTICAL, MANUAL SKILLS			
B. <u>CEMENT SPECIFIC TRAINING</u> PROCESS- AND MATERIALS TECHNO- LOGY, MACHINERY, OPERATIONS			
C. <u>MANAGERIAL TRAINING</u> MANAGEMENT, SYSTEMS, METHODS, PROCEDURES			
D. <u>HUMAN RESOURCES DEVELOPMENT TRAINING</u> INSTRUCTION, TRAINING			

THE UNCONTROLLED WAY :

"LEARNING BY ACCIDENT"

DEPENDS ON THE GOOD LUCK OF
THE INDIVIDUAL BEING EXPOSED TO
CONDITIONS STIMULATING AN EDUCATIONAL
PROCESS IN THE DESIRED DIRECTION

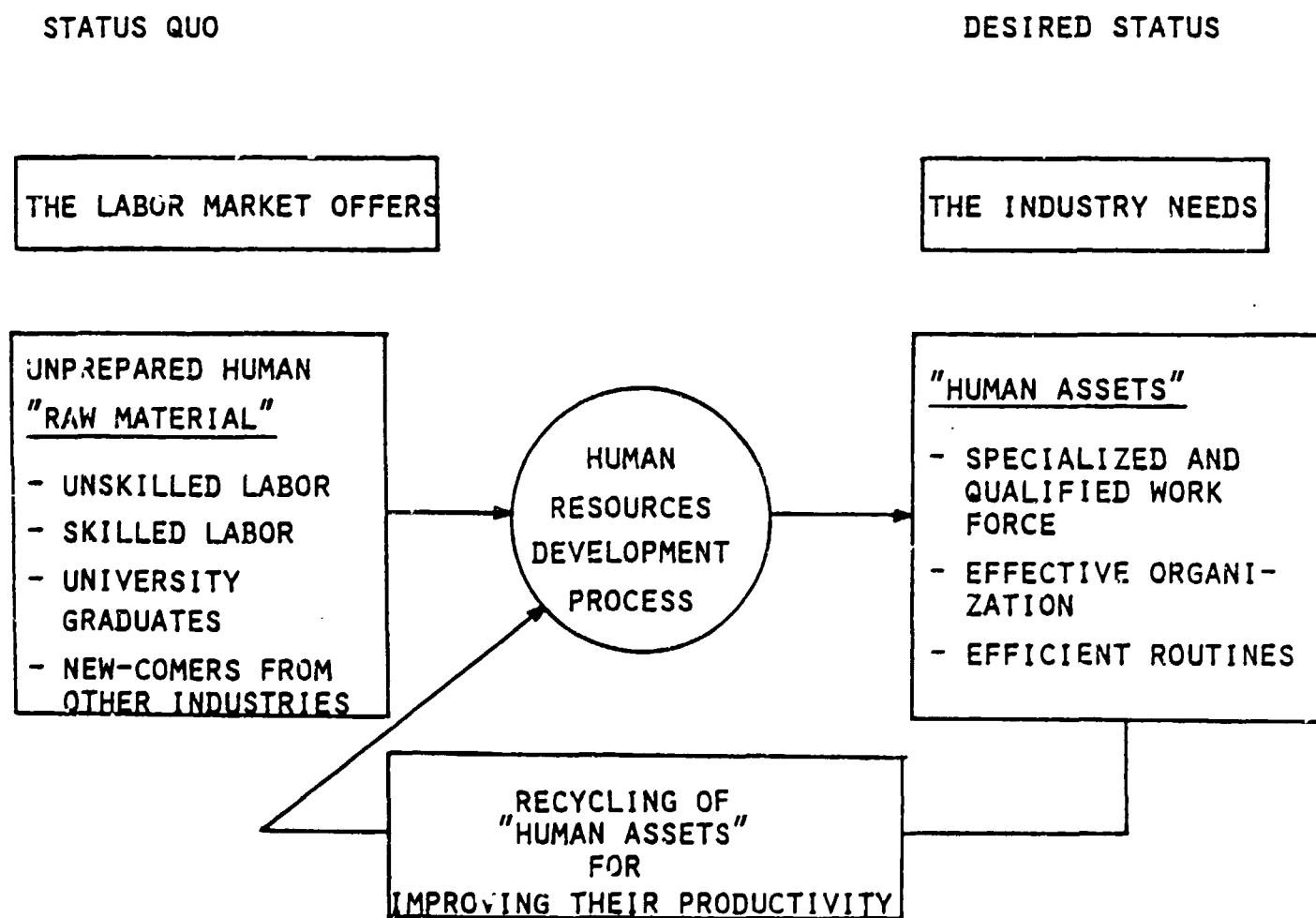
VERSUS

"HUMAN RESOURCES DEVELOPMENT"

THE CONTROLLED WAY

"HUMAN RESOURCES DEVELOPMENT"

IS THE PLANNED AND ORGANIZED WAY OF EXPOSING ALMOST EACH PERSON IN AN ORGANIZATION TO A PROCESS OF KNOW HOW TRANSFER WHICH WILL EVENTUALLY IMPROVE HIS QUALIFICATION AND VALUE FOR THE COMPANY.



MANAGING HUMAN RESOURCES DEVELOPMENT

It is a mistake if human resources development is considered as an isolated and limited input into certain key people. To the contrary it is an ongoing concern - comparable to preventive maintenance on machinery and equipment. Naturally the initial input has to be very strong and is time-consuming - comparable to the construction of a factory. Once, however, a basic standard has been developed, it is a matter of maintaining and improving the practical and managerial skills of all positions and of optimizing the organization which links all functions and departments together. Managing the human resources has been realized as one of the main issues in today's industry.

Managing human resources development has almost become a synonym for "Managing for increasing productivity!"

MANAGING HUMAN RESOURCES FOR IMPROVED PRODUCTIVITY

Determinations of Basic Activities of Management / Productivity	UTILIZATION	METHOD	PERFORMANCE
PLANNING	Concepts for development of management and workforce	Concepts for organizational development according to the established needs	Establishing a system of objectives
ORGANIZING - IMPLEMENTING	Training the technical and managerial skills for each job-position	Training the functions of the organization and the management philosophy	Motivation and compensation
CONTROLLING - CHECKING	Identifying needs for further human resources development	Checking and maintaining organizational efficiency	Performance evaluation

THE TRAINING CENTER APPROACH

Nobody questions the importance and need for maintenance workshops to keep the productivity level of the assets, plant and equipment.

The human assets, however, being the important factor for production and productivity are comparatively neglected in many industries.

In "Holderbank" the management - at a very early stage - was convinced that individual training centers in each cement factory are a prerequisite for business success. It is not so much the physical institution of a training center that counts but the training center activities.


"Holderbank" has developed a comprehensive system of centralized and decentralized training modules which cover all aspects, technical as well as managerial, and which are geared for all levels of the organizational hierarchy. The objective is that each manager even the foremen become instructors for their in-plant training center in order to contribute to maintaining and improving the productivity level of the human factor.

INDIVIDUAL TRAINING CENTERS - A VITAL MANAGEMENT TOOL

Individual training centers have become an important tool for management to influence the performance of their workforce. The focus and expectations are changing under different economical situations:

- In a developing economy the primary problem is "satisfactory fulfillment of a job".
- In a depressed economy the primary problem is specific cost reduction through "more output per man".
- In a booming industry the priority of human resources development is normally ranking behind that of capital investments.

Consequently the importance and value of individual training centers as a tool for management and implementation of company policy changes. In all examples training centers play an important role in the success of a company.

 "Holderbank"		PRODUCTIVITY IMPROVEMENT STRATEGIES FOR :	
ECONOMY	PRIMARY MANAGEMENT FOCUS	SHORT TERM RESULTS	MEDIUM TO LONG TERM RESULTS
DEVELOPING	BUILDING AN INDUSTRIAL BASE (REALIZING OPPORTUNITIES)	IMPORTING OF: -SEMI-PRODUCTS -SPECIALISTS -MANAGEMENT -SHORT TRAINING PROGRAMS	INVESTING IN: -NEW EQUIPMENT -INDIVIDUAL TRAINING CENTERS -HUMAN RESOURCES DEVELOPMENT
GROWING OR BOOMING	INCREASING SIZE AND MARKET SHARE (EXPANSION)	PUSHING OPERATIONS FOR MORE PRODUCTION	INVESTING IN NEW AND BIG EQUIPMENT
SLACKING OR DEPRESSED	RATIONALIZING AND ECONOMIZING (SURVIVAL)	RESOURCES MANAGEMENT	DEVELOPING HUMAN RESOURCES

SCOPE OF ACTIVITIES

Through the past activity "Holderbank" has gained wide and substantial experience in all areas of the Human Resources Development. The scope of services available in this field comprises:

- Studies to establish the need for training, management development and organizational development.
- Establishing and realizing training masterplans for training the entire workforce and management of newly started and existing cement plants.
- Designing and supplying training programs for training centers for the cement industry.
- Managing and operating training centers with delegated instructors.
- Designing layout, specifications and plans for the establishing of training centers.
- Developing organizations of training centers.
- Implementing class room and on-the-job training through management and training contracts.
- Delegating complete management teams for running cement factories and on-the-job instruction of locally supplied manpower and managers.
- Preparing and training local instructors for workshop and class room training in the "Holderbank" training center, Switzerland.

The objective of all these training and development activities is to "Help the individual and the organization to work smarter"

TRAINING MASTER PLANS

The outcome of a study for identifying training needs in a cement factory is a training masterplan. It involves all levels and functions of an organization. Its objective is to assure that within a certain period of time (1 to 3 years) each key function is getting the proper training and education which will enable the individual to better fulfill his job and position.

Depending on the job requirement and on the hierarchical position of the individual the training will be

- "in depth" training in a specific area or
- "in breadth" training on a number of interrelated subjects.

A training masterplan will cover the following main areas

- A. Vocational Training
- B. Cement Specific Training
- C. Managerial Training
- D. Human Resources Development Training

The following chart shows most of the major training topics that are essential steps in preparing workforce and management for better performance.

	BASIC, 1. INTRODUCTORY TRAINING	ADVANCED 2. TRAINING	SPECIALIZED, 3. EXPERT TRAINING
A. <u>VOCATIONAL TRAINING</u> PRACTICAL, MANUAL SKILLS	WELDING TOOL GRINDING WORKSHOP TRAINING MEASURING TECHNIQUE APPLIED QUALITY ASSUR.	INSPECTION TECHNIQUE	PRECISE LABORATORY TECHNIQUES
B. <u>CEMENT SPECIFIC TRAINING</u> PROCESS- AND MATERIALS TECHNO- LOGY, MACHINERY, OPERATIONS	MATERIALS TECHNOLOGY I KILN OPERATIONS I PROCESS TECHNOLOGY I MILL OPERATIONS CEMENT MACHINERY TECHNICAL COMPACT TRAINING PROGRAMS	MATERIALS TECHNOLOGY II KILN OPERATIONS II PROCESS TECHNOLOGY II	QUALITY ASSURANCE CEMENT APPLICATION MATERIAL AND PROCESS TECHNOLOGY INTERRELATIONS
C. <u>MANAGERIAL TRAINING</u> MANAGEMENT, SYSTEMS, METHODS, PROCEDURES	BASIC MAINTENANCE ENGINEERING WORKING TECHNIQUES BETTER SUPERVISOR RESPONSIBILITY TRAINING JOB FUNCTION TRAINING MANAGERIAL COMPACT TRAINING PROGRAMS ORGANIZATIONAL BEHAVIOR	PROBLEM SOLVING TECHN. INTERACTION MGMT.	MAINTENANCE MGMT. MANAGEMENT TECHN.
D. <u>HUMAN RESOURCES DEVELOPMENT TRAINING</u> INSTRUCTION, TRAINING	TRAINING TECHNIQUES	HOW TO INSTRUCT	TRAIN THE TRAINER QUALIFICATION

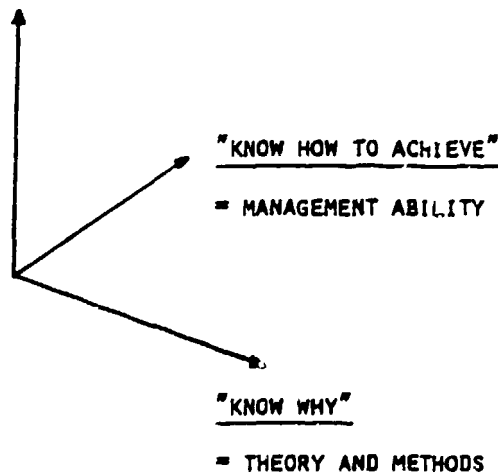
TARGETED TRAINING

Human resources development as it is practiced in "holderbank" training centers has the training target to develop "human raw material" into "mini-managers". The philosophy behind this is simple. For an efficient organization each position holder must have the qualifications of a so called "mini-manager". This means that he must be qualified to assume the responsibility for his working area. He must be in a position to realize problems and threats which may endanger the productivity of his responsibility area and he must be able to make decisions within the limits of his responsibility area. In order to develop the individual to fit such job requirements, it is a must to develop h.m into the three dimensions of human resources development.

THE THREE DIMENSIONS OF HUMAN RESOURCES DEVELOPMENT

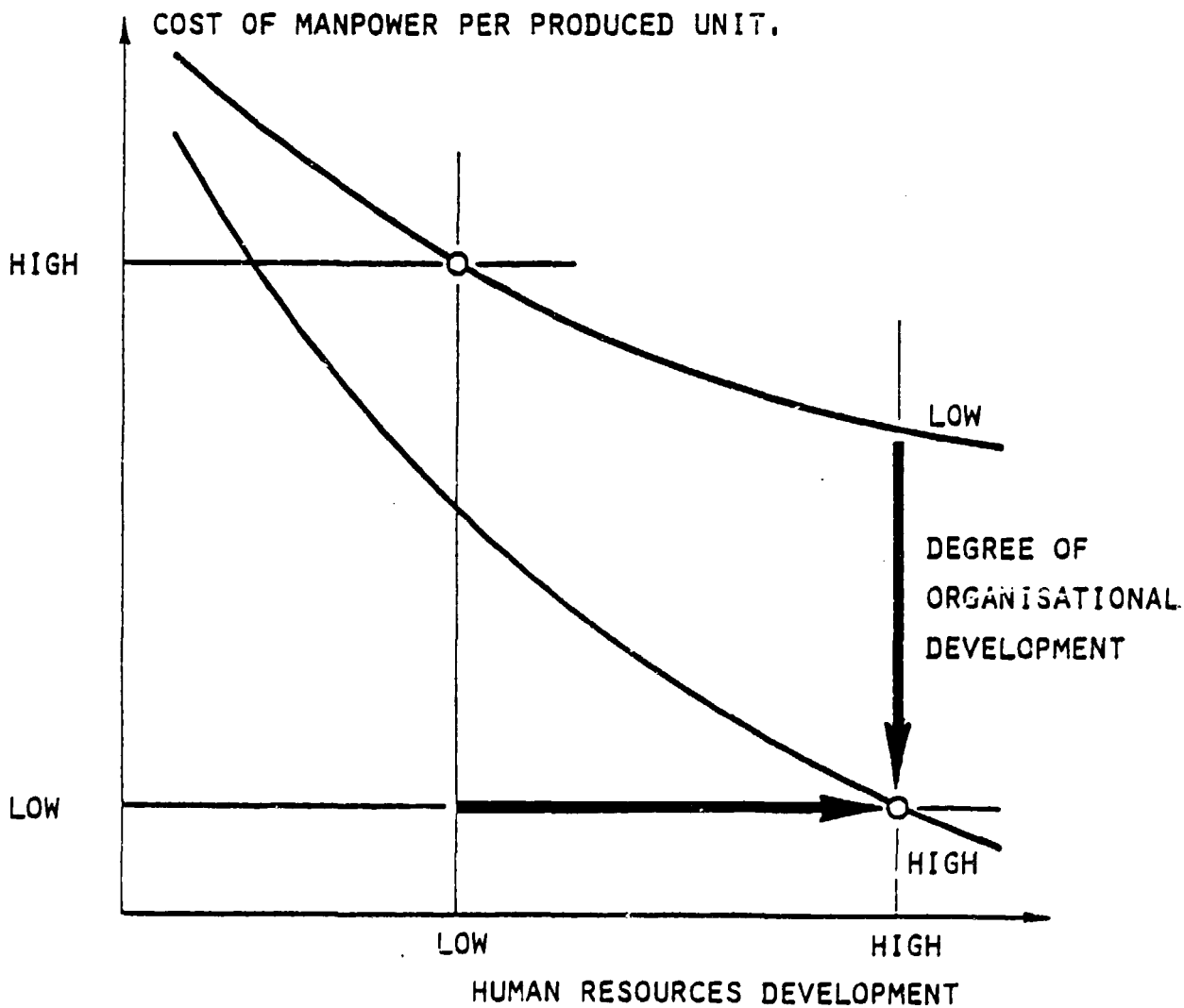
"KNOW HOW TO DO"

= PRACTICAL EXPERIENCE



BENEFIT OF HUMAN RESOURCES DEVELOPMENT

In our company it is a very clear decision that after the technical problems could be overcome and production is there, the next point of attention is the development of the human resources. According to our experience investing into human resources development is a comparatively small investment with an exceptionally high return. Further it is an obligation of the enterprise to help the human factor to keep pace with the technical advances.



<u>Year</u>	<u>Client</u>	<u>Scope of work</u>
1980	CEMENTOS DE HONDURAS S.A. Honduras - 350'000 yato - 300 employees	- Training master plan for plant extension project
1980*	CIMENTS D'OBourg S.A. Belgium - 3.8 mio yato - 1600 employees	- Organization manual - Salary system - Rationalization of maintenance department - Training Center
1980*	CEMENTOS APASCO S.A. Tabasco Division Tabasco plant - 1 mio yato	- Implementation of structural organization - Training master plan for new plant and implementation of training
1980	LIBYAN CEMENT CO. LTD. Benghazi, Libya - 2.0 mio yato - 700 employees	- Training of cement specialists (Supervisors) in Holderbank Training Center
1981	UKPILLA CEMENT CO. LTD. Nigeria - 0.5 mio yato - 900 employees	- Training of kiln operators in Holderbank Training Center
1981*	LIBYAN CEMENT CO. LTD. Benghazi, Libya	- Management and operation of the Training Center for the cement industry
1981*	SNMC Ain El Kebira, Algeria - 1.0 mio yato - 580 employees	- Evaluation of organizational and training needs

The maintenance training center

In modern industry, high utilization of all plant and equipment is a prerequisite for making profit. Under today's cost squeeze it is a top management concern to maintain high availability of production lines. Therefore *maintenance* has become just as important as production.

In order to assure careful and appropriate maintenance, all levels of employees concerned with *maintaining the profit potential* of highly capital-intensive production units have to be well prepared for the needs of this responsible function.

In the 'Holderbank' group an intensive training program has been developed and is being continually upgraded in order to create an all-round understanding of the enormous values entrusted to the maintenance people. The unique 'Holderbank' maintenance training program focuses on developing and improving:

- Practical maintenance skills
- Maintenance know-how
- Maintenance management

Target groups

The maintenance training is designed for the middle and high level of



↑ Headquarters of 'Holderbank Management and Consulting Ltd. and offices of the 'Holderbank' training center.

maintenance experts, i.e. maintenance supervisors, engineers and maintenance managers.

Program modules

The 'Holderbank' maintenance training program is made up of the following modules:

1. WORKSHOP TRAINING
2. PRACTICAL INSTRUCTION ON WEAR AND TEAR
3. MEASUREMENT TECHNIQUES
4. IN-PLANT TRAINING AND INSPECTION TECHNIQUE
5. MAINTENANCE THEORY

'Holderbank' Management and Consulting Ltd.
Personnel Service
CH-5113 Holderbank
Telephone (084) 57 01 01
Telex 68 140

Summary of program:

Services in management, personnel and training:

- Technical and management training
- Leasing of specialists
- Management contracts
- Maintenance management systems and maintenance training
- Labor productivity improvement, performance evaluation and surveys
- Design of plant organizations, personnel planning and recruiting.

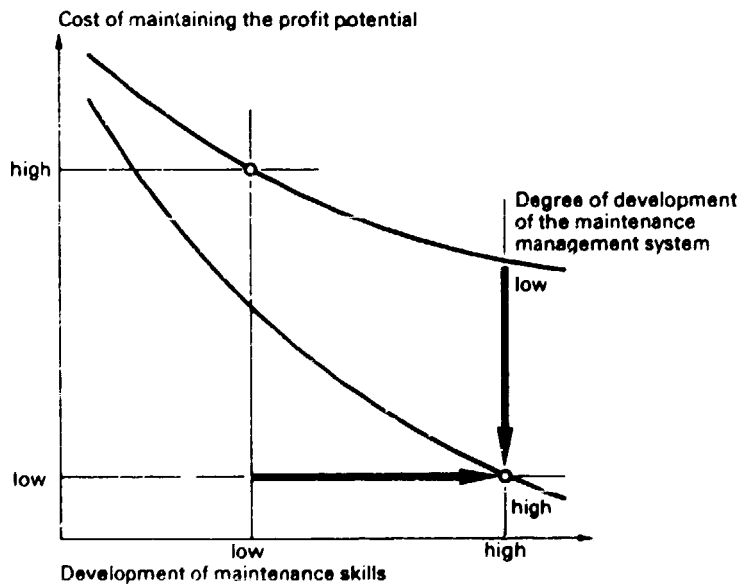
6. MAINTENANCE MANAGEMENT SYSTEM
7. TRAINING IN IMPLEMENTATION
8. SPECIFIC MAINTENANCE SEMINARS

Benefit

The 'Holderbank' maintenance training program aims at substantial savings in maintenance costs through:

1. development of individual maintenance skills and know-how
2. development of the maintenance management system.

The 'Holderbank' maintenance training program is a profitable investment in the human assets of a successful company. ●



← Impact of organizational and skill development on reduction of maintenance cost.

REFERENCE LIST

TRAINING CENTER ACTIVITIES OF "HOLDERBANK" MANAGEMENT AND CONSULTING LTD.

<u>Year</u>	<u>Client</u>	<u>Scope of work</u>
1975	GARANKUWA TRAINING CENTER Bophutatswana	- Planning and realization of a national vocational training center
1976	PACIFIC CEMENT CO. (PACEMCO) Philippines - 180'000 yato - 350 employees	- Training center concept and masterplan
1976	LA CEMENTO NACIONAL, C.E.M. Ecuador - 800'000 yato - 460 employees	- Training center concept and masterplan
1977	CEMENTOS SELVALEGRE, C.E.M. Ecuador - 370'000 yato - 320 employees	- Organizational design - Personnel recruitment - Training center - Delegation of technical management staff
1978	CEMENTOS DE HONDURAS S.A. Honduras - 350'000 yato - 300 employees	- Productivity study - Organizational design - Training concept
1979 *	TRAINING CENTER CAIRO (Government of Egypt)	- Management and operation of Training Center for the cement industry
1979	LIBYAN CEMENT CO. LTD. Benghazi, Libya - 2.0 mio yato - 700 employees	- Training of cement specialists (Engineers)
1980 - 1982	JORDAN CEMENT FACTORIES Fuheis, Jordan - 1.2 mio yato - 630 employees	- Organization study - Problem solving seminar - Training center - Management

